

DOCKET NO. VERTE.075C1

Serial No. 10/760,596

Response to Office Action dated Sept. 9, 2004

Remarks

Claims 1-40 are in the case. Claim 39-40 is new.

Specification Objections

In paragraph 3 of the Office Action, the specification was objected to as failing to provide proper antecedent basis for the claimed subject matter because the term "a wall with an opening," which is present in claim 7, was not located in the specification. Applicant directs the Examiner's attention to paragraph [0015] of the instant specification which includes the sentence "[t]he apparatus further comprises a wall with an opening therein through which gas is introduced to flow in contact with the transducer." It is requested that the objection be withdrawn.

Claim Objections

In paragraph 4 of the Office Action, claim 27 was objected for informalities because the word "wherein" is repeated twice. Claim 27 has been reviewed, however, the word "wherein" is only recited once. It is respectfully requested that this objection to claim 27 be withdrawn.

Claim Interpretation

Regarding the claim interpretation of claim 27 set forth in paragraph 5 of the Office Action, the Examiner is correct to note that the wall is part of a housing that forms a space adjacent to the a portion of the transducer. The transducer itself can form the housing or a portion thereof, such as a wall or floor.

Claim Rejections Under 35 U.S.C. § 112

In paragraph 7 of the Office Action, claim 6 was rejected under 35 U.S.C. § 112, second paragraph, because the limitation "the first source of liquid" lacked antecedent

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basis. Claim 6 has been amended to correct this deficiency. It is requested that the rejection be withdrawn.

Claim Rejections Under 35 U.S.C. §§ 102 and 103

In paragraph 9 of the Office Action, claims 1-5, 7, 8, 17-21, 25, 26, 34, 35, 37, and 38 were rejected under 35 U.S.C. § 102 as being anticipated by U.S. Patent 4,401,131 ("Lawson"). Specifically, Lawson was cited as disclosing an apparatus having "a wafer holding chuck, incorporated into rotatable cup, cleaning liquid, piezoelectric transducer elements (reads on first "a first source of sonic energy," as instantly claimed), a faceplate (reads on "transmitter," as instantly claimed), the faceplate includes grooves (reads on "elongate channel or elongate cutouts that create a narrow edge lying directly adjacent the substrate first surface," as instantly claimed). While not specifically mentioned in Lawson, the Office Action notes that the Lawson apparatus inherently attenuates the sonic energy as instantly claimed because the assembly of Lawson and its operation are essentially the same.

In paragraphs 13 and 14 of the Office Action, claims 36, 24, 27-29, and 31-33 were rejected under 35 U.S.C. § 103(a) as being obvious over either Lawson by itself or Lawson in view of U.S. Patent 6,295,999 ("Bran").

Claims 1, 27, and 34 are amended to remove the recitation of "an elongate channel" and "elongate cutouts that create a narrow edge lying directly adjacent the substrate first surface" from the list of transmitter features that are used to attenuate the sonic energy. In rejecting each of claims 1, 27, and 34, the Office Action cites Lawson as disclosing a transmitter having "an elongate channel" and "elongate cutouts that create a narrow edge lying directly adjacent the substrate first surface." By removing these features from the Markush group of transmitter features in claims 1, 27, and 34, the Markush group now recites "a substantially elliptical cross section, a roughened surface, and a plurality of bores" as the transmitter features that assist in the attenuation of the acoustical energy.

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However, neither Lawson, nor any of the other cited prior art references, disclose or reasonably suggest a transmitter having "a substantially elliptical cross section, a roughened surface, or a plurality of bores," as is required by claims 1, 27, and 34. Therefore, the current rejections of claims 1, 27, and 34 should be withdrawn.

Furthermore, one skilled in the art would not be motivated to modify the apparatus of Lawson to include any of these features. Lawson specifically teaches adding the grooves 29 to the transmitter plate 27 for "facilitating venting of vapors created by cavitation during cleaning." See Lawson, Column 2, Lines 40-56. There is no mention in Lawson that the grooves 29 were intended to attenuate the acoustical energy being supplied to the wafer surface. In fact, the Office Action recognizes this fact in noting that the attenuation was not specifically mentioned but was inherent in the structure. Thus, there is absolutely no motivation to modify the transmitter plate of Lawson to include any one of the attenuation features of "a substantially elliptical cross section, a roughened surface, or a plurality of bores," as recited in claims 1, 27, and 34.

Moreover, if the transmitter plate 27 of Lawson was modified to replace the grooves 29 with "a substantially elliptical cross section, a roughened surface, or a plurality of bores," it is possible that the cleaning solution under the transmitter plate 27 would not be able to vent properly. Thus, because the entire purpose stated in Lawson for adding the grooves 29 is for ventilation, such a modification would go against the teachings of Lawson. Therefore, it is asserted that Lawson actually teaches away from such modification.

For these reasons, the rejections of claims 1, 27, and 34 over Lawson and/or Lawson in combination with Bran are obviated/overcome and it is respectfully requested that the rejections be withdrawn.

Turning now to independent claims 9 and 39, claims 9 and 39 both recite that "the transmitter comprise an elongate probe." It is believed that claims 9 and 39 are patentable over the prior art of record because none of the prior art references either alone or in permissible combination teach an apparatus (or use thereof) having an elongate

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probe transmitter in combination with other recited elements of these claims. In fact, in the Examiner's reasons for indicating allowable subject matter in paragraph 15 of the Office Action, the Examiner noted that no other prior art discovered as of the date of the Office Action anticipated or fairly suggested a "transmitter comprising elongate probe in combination with the other structural elements as provided in the instant claims." It is important to note that while neither claim 9 nor claim 39 recite any of the specific transmitter attenuation features that are recited in claims 1, 27, and 34, it is nonetheless believed that this does not negatively affect their patentability. Therefore, it is believed that claims 9 and 39, as amended, are allowable over the prior art of record.

Support for New Claims


Claim 39 is a new independent method claim. *No New matter is added. Support for claim 39 can be found in original claim 34 and original claim 9.*

Claim 40 is a new claim and depends on claim 39. *No new matter is added. Support can be found in original claims 12-15.*

Thus, the current rejections of these claims are overcome because neither Lawson, nor Lawson in combination with Bran, disclose each and every element of the claimed inventions of claims 1, 27, and 34.

It is believed that all claim rejections have been overcome and/or obviated and, thus, it is respectfully requested that all rejections be withdrawn and the claims found allowable over the prior art of record.

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